[This is a rough draft of TAT's WQS as something you can work from. The language in blue is from EPA's WQS template (recommendations followed by sample language]. I added to TAT's WQS language from Standing Rock's WQS and North Dakota DEQ's WQS.]

Three Affiliated Tribes

Draft Water Quality Standards

DEFINITIONS

[These are optional definitions that the Tribe may choose to include in its WQS for clarity and transparency. The purpose of the definitions is to define words used in the Tribe's WQS. The Tribe may choose to use some or all of these definitions and may choose to add additional definitions as appropriate. EPA sourced these definitions from EPA documents, the Code of Federal Regulations, and various tribal WQS packages.]

[EPA: "Acute" refers to a stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed in 96- hours or less is typically considered acute. When referring to aquatic toxicology or human health, an acute affect is not always measured in terms of lethality.]

[ND DEQ: "Acute standard" means the one hour average concentration does not exceed the listed concentration more than once every three years.]

[SRST: "Acute toxicity" means a deleterious response (e.g. mortality, disorientation, immobilization) to a stimulus observed in 96 hours or less.]

[SRST: "Applicant" means any person who applies for a license or permit from any federal or tribaly agency that may result in the discharge of any pollutant into the surface waters of the Reservation, or wetlands within the exterior boundaries of the Reservation.]

[EPA: "Aquatic community" is an association of interacting populations of aquatic organisms in a given water body or habitat.]

[EPA: "Averaging period" is the period of time over which the receiving water concentration is averaged for comparison with criteria concentrations. This specification limits the duration of concentrations above the criteria.]

[SRST: "Background conditions" mean the biological, chemical and physical conditions of a water body, upstream from the point of non-point source discharge under consideration. In determining background conditions, sampling locations in an enforcement action will be upstream from the point of discharge, but not upstream from other inflows. If several

discharges to any water body exist, and an enforcement action is being undertaken for possible violations of the standards, background sampling will be undertaken immediately upstream from each discharge.]

[EPA: "Best management practices" or "BMP" means physical, structural, and/or managerial practices that, when used singularly or in combination, prevent or reduce pollution.]

[ND DEQ: "Best management practices" are method, measures, or procedures selected by [the Department] to control nonpoint source pollution. Best management practices include structural and nonstructural measures and operation and maintenance procedures.]

[EPA: "Bioaccumulation" is the process by which a compound is taken up by an aquatic organism, both from water and through food.]

[MHA: "Biological criteria," also known as biocriteria, are narrative expressions or numeric values of the biological characteristics of aquatic communities based upon appropriate reference conditions. Biological criteria serve as an index of aquatic community health.]

[EPA: "Biological integrity" is the condition of the aquatic community inhabiting unimpaired water bodies of a specified habitat as measured by community structure and function.]

[SRST: "Ceremonial and religious water use" means activities involving traditional [TAT_____ cultural or spiritual practices.]

[SRST: "Certification" means a notice issued by the Department of approval, approval with conditions or denial of an application for certification.]

[EPA: "Chronic" defines a stimulus that lingers or continues for a relatively long period of time, often one tenth of the life span or more. Chronic should be considered a relative term depending on the life span of an organism. The measurement of a chronic effect can be reduced growth, reduced reproduction, etc., in addition to lethality.]

[ND DEQ: "Chronic standard" means the four-day average concentration does not exceed the listed concentration more than once every three years.]

[SRST: "Chronic toxicity" means the lowest concentration of a constituent causing observable effects (i.e. lethality, growth, reduced reproduction) over a relatively long period of time.]

[EPA: "Clean Water Act" or "CWA" means the federal Clean Water Act, 33 U.S.C. §§ 1251-1387, as amended.]

[EPA: "Compliance schedule" means a schedule of remedial measures, including an enforceable sequence of actions or operations, leading to compliance with an effluent limitation or other limitation, prohibition or standard.]

[MHA: "Constructed wetlands" are those wetlands intentionally designed, constructed, and operated on upland, non-wetland sites for the primary purpose of wastewater or stormwater treatment or environmental remediation. Constructed wetlands are not "wetlands of the Tribes."]

[MHA: "Criteria" are elements of water quality standards, expressed as a desired condition, constituent concentration, level, or narrative statement, representing a quality of water that supports a particular use.]

[EPA: "Criteria" are elements of the Tribe's water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use.]

[EPA: "Criteria continuous concentration" (CCC) is the highest instream concentration of a toxicant or an effluent to which organisms can be exposed indefinitely without causing unacceptable effect.]

[EPA: "Criteria maximum concentration" (CMC) is the highest instream concentration of a toxicant or an effluent to which organisms can be exposed for a brief period of time without causing an acute effect.]

[EPA: "Cyanotoxins" are toxins produced by cyanobacteria. Cyanobacteria, a type of phytoplankton also known as blue-green algae, are often the cause of algal blooms in fresh water and occasionally in marine water. Their toxins can harm people, animals, aquatic ecosystems, the economy, drinking water supplies, property values, cultural activities, and recreational activities, including swimming and fishing.]

[SRST: "Department" means the Three Affiliated Tribes Environmental Division, acting through the Clean Water Action Section 106 Grants program.]

[EPA: "Design flow" is the flow used for steady-state waste load allocation modeling.]]

[MHA: Designated use means a use that is specified in water quality standards as a goal for the waterbody segment, whether or not it is currently being attained.

[EPA: "Designated uses" are those uses specified in water quality standards as a goal for each water body or segment whether or not they are currently being attained.]

[EPA: "Diversity" is the number and abundance of biological taxa in a specified location.]

[EPA: "E. coli or Escherichia coli" is the name of a specific bacterium used as an indicator of fecal (pathogen) pollution in fresh water environments and is expressed as colony forming units (cfu) per 100 milliliters or most probable number (mpn) per 100 milliliters. Analytic procedures include multiple-tube fermentation and membrane filter techniques. Elevated levels can be an indicator of the presence of pathogens that can cause human health

problems. **[The "E. coli or Escherichia coli" definition should be included in this list only if the Tribe chooses to adopt E. coli as the indicator within Table 6.]**

[EPA – "Enterococci" is the name of a group of bacteria used as an indicator of fecal (pathogen) pollution in saline water environments and is expressed as colony forming units (cfu) per 100 milliliters or most probable number (MPN) per 100 milliliters. Analytic procedures include multiple-tube fermentation and membrane filter techniques. Elevated levels can be an indicator of the presence of pathogens that can cause human health problems. **[The "Enterococci" definition should be included in this list only if the Tribe chooses to adopt Enterococci as the indicator within Table 6.]**

[SRST: "EPA" means the U.S. Environmental Protection Agency.]

[MHA: "Existing use" means a use that is actually attained in the water body on or after November 28, 1975, whether or not it is included in the water quality standards.]

[EPA: "Existing uses" are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.]

[EPA: "Federal Indian Reservation," "Indian Reservation," or "Reservation" is defined as all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation.]

[EPA: "Frequency" is how often criteria can be exceeded without unacceptably affecting the community.]

[EPA: "Geometric mean" (GM) refers to the Nth root of the product of N numbers. Alternatively, the geometric mean can be calculated by adding the logarithms of N numbers, dividing the sum by N, and taking the antilog of the quotient. The geometric mean of two numbers is the square root of the product of the two numbers, and the geometric mean of one number is that number. Either natural (base e) or common (base 10) logarithms can be used to calculate geometric means as long as they are used consistently within each set of data, i.e., the antilog used must match the logarithm used.]

[EPA: "Harmonic mean flow" is the number of daily flow measurements divided by the sum of the reciprocals of the flows. That is, it is the reciprocal of the mean of reciprocals.]

[EPA: "Indian Tribe" or "Tribe" describes any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation.]

[EPA: "Magnitude" is how much of a pollutant (or pollutant parameter such as toxicity), expressed as a concentration or toxic unit is allowable.]

[MHA: “Mixing zones” are areas surrounding or downstream of a point source discharge where the effluent plume is progressively diluted by the receiving water and certain numerical water quality criteria otherwise applicable to the waterbody segment may be exceeded.]

[SRST: “Mixing zone” or “dilution zone” means a limited area of volume of water where initial dilution of discharge takes place, and where numeric water quality criteria can be exceeded but acutely toxic conditions are prevented from occurring.]

[EPA] “Mixing zone” is an area where an effluent discharge undergoes initial dilution and is extended to cover the secondary mixing in the ambient water body. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented.

[MHA: “Near instantaneous and complete mixing” of a pollution source to a river or stream means no more than a 10% difference in bank-to-bank concentrations within a longitudinal distance not greater than two stream/river widths.]

[EPA: "Nonpoint source" means any dispersed land-based or water-based activity rather than a point source that contributes to water quality degradation, including but not limited to, atmospheric deposition; surface water runoff from agricultural, urban, forest, construction and mining lands; subsurface or underground sources; or discharges from boats or marine vessels not otherwise regulated under the National Pollutant Discharge Elimination System program.]

[EPA: “NPDES” means National Pollutant Discharge Elimination System, the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA § 307, 318, 402, and 405 of the CWA.]

[EPA??: “Outstanding National Resource Water” is a high quality water that constitutes an outstanding Tribal resource due to its extraordinary water quality or ecological values, or where special protection is needed to maintain critical habitat areas.]

[MHA: “Outstanding National Resource Water” (ONRW) means a waterbody segment that has been designated as an ONRW in the tribal water quality standards.]

[EPA: “Permit” means a document issued pursuant to Tribal code or federal laws (such as CWA §§ 401, 402 and 404) specifying waste treatment and control requirements or discharge conditions.]

[SRST: “pH” means the negative logarithm of the hydrogen ion concentration.]

[EPA: “Point source” means any discernible, confined or discrete conveyance, including, but not limited to, any pipe, ditch, channel, sewer, tunnel, conduit, well, discrete fissure,

container, confined animal feeding operation, vessel, or other floating craft, from which pollutants are or may be discharged.]

[EPA: "Pollutant" means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.]

[EPA: "Pollution" is defined as the man-made or man-induced alteration of the chemical, physical, biological and radiological integrity of water.]

[ND DEQ: "Pollution" means such contamination, or other alteration of the physical, chemical, or biological properties, of any waters of the state, including change in temperature, taste, color, turbidity, or odor. Pollution includes discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state that will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to public health, safety, or welfare; domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or livestock, wild animals, birds, fish, or other aquatic biota.]

[EPA: "Practicable" means technologically possible, able to be put into practice, and economically viable.]

[MHA: "Primary contact recreation" means swimming and other activities that potentially involve total body immersion [and/or incidental water exposure], such as rafting, wind surfing, [canoeing], tubing, kayaking, scuba diving, snorkeling and water skiing.]

[SRST: "Primary contact recreation" means swimming and other activities that potentially involve total body immersion [and/or incidental water exposure], such as rafting, wind surfing, [canoeing], tubing kayaking, scuba diving, snorkeling and water skiing.]

[EPA: "Priority pollutants" are those pollutants listed under section 307(a) of the CWA.]

[MHA: "Priority toxic pollutants" are those listed by the EPA Administrator under CWA § 307(a).]

[SRST: "Reservation" means the portion of Fort Berthold Indian Reservation as defined in….]

[MHA: "Secondary contact recreation" means wading and other similar water recreational activities where there is reduced likelihood of total body immersion].

[EPA: "Site-specific criterion" is a water quality criterion that has been derived to be specifically appropriate to the water quality characteristics and/or species composition at a particular location.]

[EPA: "Statistical threshold value" (STV) refers to the approximation of the 90th percentile of the water quality distribution and is intended to be a value that should not be exceeded by more than 10 percent of the samples taken.]

[SRST: "Surface water" means all water above the surface of the ground within the exterior boundaries of the Fort Berthold Indian Reservation, including but not limited to rivers, streams, creeks, lakes, ponds, reservoirs, artificial impoundments, springs, seeps and wetlands.]

[SRST: "Temperature" means water temperature expressed in Centigrade or Fahrenheit degrees.]

[SRST: "Total dissolved solids (TDS)" means the total filterable residue that passes through a standard glass fiber filter disk and remains after evaporation and drying to a constant weight at 180 degrees Centigrade. It is considered to be a measure of the dissolved salt content of water.]

[EPA: "Total maximum daily load" (TMDL) is the sum of the individual waste load allocations (WLAs) and load allocations (LAS); a margin of safety is included with the two types of allocations so that any additional loading, regardless of source, would not produce a violation of water quality standards.]

[EPA: "Toxicity test" is a procedure to determine the toxicity of a chemical or an effluent using living organisms. A toxicity test measures the degree of effect on exposed test organisms of a specific chemical or effluent.]

[MHA: "Toxics" are those pollutants that have a toxic effect on living organisms. The CWA § 307(a) priority toxic pollutants are a subset of this group of pollutants.]

[EPA: "Toxic pollutant" refers to those pollutants, or combination of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, or on the basis of information available to the administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.]

[SRST: "Tribal Council" means…]

[EPA: "Turbidity" means the clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidity meter.]

(42) "Use attainability analysis" (UAA) is a structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in 40 CFR section 131.10(g).

[MHA: "Water quality standards" consist of a designated use or uses, numeric and narrative criteria, and an antidegradation policy.]]

[SRST: "Water quality standard" means the water quality goal for a surface water body of the Reservation, or a portion thereof, by designating the use or uses of the water, by setting criteria necessary to protect the uses, and to protect the water quality through an antidegradation plan.

[MHA: "Waters of the Tribes" include all those waters that satisfy the federal definition of "waters of the U.S." that is found at 40 C.F.R. 122.2, and generally include all lakes, rivers, streams (including intermittent and ephemeral streams), wetlands, sloughs and ponds located within the exterior boundaries of the Reservation.]

[MHA: "Wetlands" are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.]

[SRST: "Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances do support, a prevalence of vegetation typically adapted for saturated soil conditions.]

[EPA: "Whole effluent toxicity" means the aggregate toxic effect of an effluent measured directly by a toxicity test.]

ANTIDEGRADATION POLICY

[The following is EPA's model text for an antidegradation policy. EPA's regulation at 40 CFR 131.12 requires development and adoption of an antidegradation policy, as well as development and identification of antidegradation implementation methods that implement that antidegradation policy. Antidegradation policies must be adopted in rule or other legally binding form, while the regulation provides that antidegradation implementation methods may either be made legally binding or may be identified through a non-legally binding method. The Tribe may amend this section to reflect any special circumstances. EPA recommends coordinating with the EPA Regional Office when developing amendments.]

(1) [EPA's (same as MHA's)] Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) [EPA's (similar to MHA's)] Where the quality of the waters exceeds levels necessary to support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Tribes find, after full satisfaction of the tribal intergovernmental coordination and tribal public participation provisions, that allowing lower water quality is necessary to accommodate important

economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the Tribes shall assure water quality adequate to protect existing uses fully. Further, the Tribes shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

[EPA's regulation at 40 CFR 131.12(a)(2)(i) provides that states and tribes may identify high quality waters on either a "parameter-by-parameter basis" or on a "water body-by-water body basis." The paragraph (f)(2)(i) is drafted using the parameter-by-parameter basis to identify high quality waters. If the Tribe chooses to identify high quality waters using the water body-by-water body basis, it must comply with additional technical and public involvement requirements found in 40 CFR 131.12(a)(2)(i). The Tribe should coordinate with the EPA Regional Office on its approach.]

(i) [EPA's] Identification of reservation waters for the protections described in paragraph (f)(2) of this section will be made on a parameter-by-parameter basis.

(ii) [EPA's] Before allowing any lowering of high quality water, pursuant to paragraph (f)(2) of this section, the Tribe shall find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the Tribe shall only find that a lowering is necessary if one such alternative is selected for implementation.

(3) [EPA's (similar to MHA's)] Where high quality waters constitute an outstanding National resource, such as waters of National, State, and Tribal parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(4) [same as MHA's] In those cases where potential water quality impairment associated with a thermal discharge is involved, the decision to allow such degradation shall be consistent with section 316 of the Clean Water Act.

[The following is EPA's model text for antidegradation implementation methods. The Tribe, in coordination with the EPA Regional Office, may choose to modify aspects of these methods as long as they comply with EPA's regulation at 40 CFR 131.12. The regulation at 40 CFR 131.12(b) requires tribes to provide an opportunity for public involvement during the development and any subsequent revisions of the implementation methods and requires the tribe to make the methods available to the public. The Tribe may satisfy the public involvement and public availability requirements by adopting (i.e., legally binding) antidegradation implementation methods and conducting a public hearing as required for any new or revised WQS. If the Tribe chooses to identify its antidegradation implementation methods in guidance or another non-binding form, it may delete the following section. Note that regardless of where the antidegradation implementation

methods are established, the Tribe must ensure that it provides an opportunity for public involvement during the development (and subsequent revisions) of the antidegradation implementation methods, and make the methods available to the public.]

[From EPA: ANTIDEGRADATION IMPLEMENTATION METHODS

(1) *Scope and Applicability.* The antidegradation policy in paragraph (f) of this section and these antidegradation implementation methods shall be applied to all reservation waters of the United States included in paragraph (a) of this section.

[The following text assumes the Tribe will identify high quality waters using a "parameter-by-parameter basis." The Tribe may instead choose to identify high quality waters using a "water body-by-water body basis," as described above, and may coordinate with the EPA Regional Office to amend the antidegradation implementation methods to reflect use of the water body-by-water body basis.]

(i) In determining which waters will receive high quality water protection consistent with paragraph (f)(2) of this section, the tribe will identify high quality water on a parameter-by-parameter basis. Each parameter that is determined to be high quality shall be considered and evaluated independently consistent with paragraph (g)(3) of this section at the time a regulated activity which would lower water quality is proposed.

[EPA recommends that the Tribe coordinate with the appropriate EPA Regional Office to amend the antidegradation implementation methods where the Tribe does not yet have the authority to administer the CWA section 402 permitting program. Where the Tribe does not have the authority to administer the CWA section 402 permitting program, EPA will act as the permitting authority in reservation waters and will describe, in the permit fact sheet, how the permit is consistent with the antidegradation requirements of this paragraph and the antidegradation policy in paragraph (f) of this section. The following text (all of section (g)) assumes the Tribe will be conducting the antidegradation review or reviewing the components of the antidegradation review and providing its decision on the authorization to lower water quality to EPA permit writers before or during the permit development process. If the Tribe instead decides to review that material, authorize the lowering of water quality, and ensure compliance with its antidegradation provisions during the CWA section 401 certification process, EPA recommends that the tribe coordinate with the appropriate EPA Regional Office to amend these antidegradation implementation methods to reflect that process..]

(ii) The requirements of paragraph (f) of this section will be triggered by all new or expanded regulated activities. Regulated activities include, but are not limited to, any activity that requires a permit, license or water quality certification pursuant to section 402 of the Act, section 404 of the Act, and section 401 of the Act. No lowering of a high quality water shall be allowed unless the Tribe makes a finding consistent with paragraph (f)(2) and (g)(3)(ii) of this section and the lowering is authorized in a permit, license, or certification.

(iii) Antidegradation protections will be addressed in new or reissued general permits authorized, implemented, or administered by the permitting authority either at the time the permitting authority develops and issues the general permit or upon review of an applicant's request to be covered by a general permit. The permitting authority will describe in writing in the permit fact sheet how the general permit is consistent with the antidegradation requirements of this paragraph and the antidegradation policy in paragraph (f) of this section.

(2) *Existing Instream Use Protection consistent with paragraph (f)(1) of this section.* For all waters, the Tribe shall ensure that the level of water quality necessary to protect existing uses is maintained. In order to achieve this requirement, the Tribe shall consider whether a discharge would lower the water quality to the extent that it would no longer be sufficient to protect and maintain the existing uses of that water body. Such consideration shall be based on all existing and readily available water quality-related data and information, as well as any additional water-quality related data and information submitted during the public comment period for the permit or license.

[The following text assumes the Tribe will identify high quality waters using a "parameter-by-parameter basis." The Tribe may instead choose to identify high quality waters using a "water body-by-water body basis." If so, the EPA recommends the Tribe coordinate with the EPA Regional Office to amend the antidegradation implementation methods to reflect use of the water body-by-water body basis.]

(3) *High Quality Water Protection consistent with paragraph (f)(2) of this section.* High quality waters are water bodies in which, on a parameter-by-parameter basis, the quality of the waters exceeds levels necessary to support protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. The Tribe shall ensure that no action resulting in a lowering of water quality occurs unless the components outlined in paragraph (g)(3)(i) of this section are available to the Tribe and found to adequately support the lowering of water quality as necessary to accommodate important economic and social development in the area in which the water is located consistent with paragraph (g)(3)(ii) of this section.

[The Tribe may choose to specify who will prepare the components and information outlined in the following section. For instance, the Tribe may choose to require "the entity seeking to lower water quality" to prepare and submit the components and information. The Tribe may coordinate with the EPA Regional Office to amend this section.]

(i) When determining whether to authorize a lowering of water quality for one or more parameters that exceeds levels necessary to support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, the Tribe will consider the following components and information:

(1) Identifying Information. Name of the applicant, a description of the nature of the applicant's business and the pollutants to be discharged, location of the discharge, the

name of and any water quality data for the receiving water body, daily maximum and average flow to be discharged, and effluent characterization.

[The Tribe may want to include a list of alternatives in paragraph (g)(3)(i)(2) that may be considered during the analysis of alternatives. Alternatives to consider may include:

- **Alternative methods of production or operation;**
- **Water conversation practices;**
- **Wastewater minimization technologies;**
- **Improved wastewater treatment facility operation;**
- **Alternative methods of treatment, including advanced treatment beyond applicable technology requirements of the Clean Water Act;**
- **Relocation or configuration of outfall or diffuser;**
- **Process changes/improved efficiency that reduces pollutant discharge;**
- **Seasonal discharge to avoid critical time period for water quality;**
- **Non-discharge alternatives such as land application;**
- **Offsets to the activity or discharge's effect on water quality]**

(2) Analysis of alternatives. Identification and evaluation of a range of practicable (as defined at (b)(34)) alternatives that would prevent or lessen the degradation associated with the proposed activity to determine whether the degradation of water quality is necessary. When the analysis of alternatives identifies one or more practicable alternatives, the Tribe shall only find that a lowering is necessary, consistent with paragraph (f)(2)(ii), if one such alternative is selected for implementation.

[The Tribe may want to include a list of factors in paragraph (g)(3)(i)(3) that will be evaluated during a socio-economic analysis. Factors may include:

- **Median Household Income;**
- **Community Unemployment Rate;**
- **Overall Net Debt as a Percent of Full Market Value of Taxable Property;**
- **Percent of Households Below Poverty Line;**
- **Impact on Community Development Potential; and**
- **Impact on Property Values.]**

(3) Socio-economic analysis. Identification and evaluation of the social and economic development benefits to the area in which the waters are located that will be foregone if the lowering of water quality is not allowed. Along with the analysis of alternatives, the socio-economic analysis is used to determine whether the lowering of water quality will accommodate important economic and social development in the area in which the water is located. The "area in which the waters are located" shall be determined on a case-by-case basis, and shall include all areas directly impacted by the proposed regulated activity. Factors that must be considered in the socio-economic analysis include, but are not limited to, the ecological and economic

importance of the affected waters, the importance of the development to the affected community, and the socio-economic health of the affected community as determined by appropriate analytical methods.

(4) Any additional documentation requested by the Tribe which, in the judgment of the Tribe, is needed to decide whether to find that a lowering of water quality is necessary to accommodate important economic and social development in the area in which the water is located.

(ii) Once the Tribe has the components and information required in paragraph (g)(3)(i) of this section, the Tribe shall use that information to make a finding as to whether the lowering of water quality is necessary to accommodate important social and economic development in the area in which the water is located.

(1) If the proposed lowering of water quality is either not necessary, or not important to accommodate social and economic development, the Tribe shall deny the request to lower water quality.

(2) If the lowering of water quality is necessary, and will accommodate important social and economic development goals, the Tribe may authorize a lowering to the high quality water as long as one of the alternatives identified in paragraph (g)(3)(i)(*2*) is selected for implementation. If a non-degrading practicable alternative is selected, no lowering in the high quality water will occur, and the Tribe does not need to authorize the lowering.

(3) In no event may the decision reached under this section allow water quality to be lowered below the level required to support existing and designated uses.

(4) The Tribe's decision to allow a lowering of water quality shall be subject to the tribe's applicable public participation requirements specified in their continuing planning process **[or insert other applicable guidance]**. To the extent possible, public notice regarding the finding to allow a lowering of water quality will be coordinated with other required notices for public review.

(5) To fulfill intergovernmental coordination, the tribe shall send a copy of the public notice and request comment on the preliminary authorization of a lowering of water quality in a high quality water to local, state, and federal agencies that operate in the area of the waters impacted by the activity.

(6) Before allowing any degradation of water quality, the Tribe shall identify point sources and tribal-regulated nonpoint sources that discharge to, or otherwise impact, the receiving water and coordinate with other agencies, as necessary, to assure compliance with the highest statutory and regulatory requirements for all new and existing point sources and/or all tribal required cost-effective and reasonable best management practices for non-point source control. If compliance with the highest statutory and regulatory requirements for all new and existing point sources and all tribal-regulated cost-effective and reasonable best management practices for non-

point sources cannot be assured, the Tribe shall deny the request to lower water quality.

(4) *Outstanding National Resource Water Protection consistent with paragraph (f)(3) of this section.* For reservation waters assigned as Outstanding National Resource Waters, the Tribe shall ensure, through the application of appropriate controls on point and tribal regulated nonpoint pollutant sources, that water quality is maintained and protected. No new or expanded point source discharges will be allowed to Outstanding National Resource Waters, and no new or expanded point source discharges to tributaries to Outstanding National Resource Waters that would result in lower water quality in the Outstanding National Resource Waters will be allowed unless it is on a short term and temporary basis, consistent with paragraph (g)(4)(iii) of this section.

(i) Any interested party may nominate a specific reservation water to be assigned as an Outstanding National Resource Water and the Tribe will make the final decision to assign the water as an Outstanding National Resource Water. Such nominations shall include written documentation of the qualifications of the reservation water that warrant Outstanding National Resource Water protection.

(1) The Tribe's decision to assign a water as an Outstanding National Resource Water shall be subject to applicable public participation requirements. To the extent possible, public notice regarding the decision to assign a reservation water as an Outstanding National Resource Water will be coordinated with other required notices for public review.

(ii) The Tribe will maintain a comprehensive list of the reservation waters that have been assigned as an Outstanding National Resource Water consistent with paragraph (f)(3) at **[location of list]**.

[The last sentence of the following paragraph (g)(4)(iii) allows for short-term, temporary degradation of Outstanding National Resource Waters under certain circumstances. EPA's guidance (see [HYPERLINK "https://www.epa.gov/wqs-tech/water-quality-standards-handbook"]**) discusses such short-term, temporary degradation. If the Tribe, in coordination with the EPA Regional Office, decides not to include this provision, the sentence may be deleted.]**

(iii) The Tribe intends to allow short-term, temporary degradation in an Outstanding National Resource Water as long as the short-term, temporary degradation is limited to the shortest possible time in the context of weeks to months, does not impact existing uses, and does not alter the essential or special characteristics that make the reservation water an Outstanding National Resource Water.]

NARRATIVE WATER QUALITY CRITERIA

[Language in sections (1) through (2)(v) is from EPA's template: According to EPA's regulation at 40 CFR 131.11(b)(2), the Tribe should establish narrative criteria where numeric criteria cannot be established or to supplement numeric criteria.]

(2) *General requirements.* All waters included in paragraph (a) of this section shall be free from toxic, radioactive, conventional, non-conventional, deleterious or other polluting substances in amounts that will prevent attainment of the designated uses specified in paragraph (c) of this section, as modified in paragraph (l) of this section. Generally applicable Designated Uses are listed in paragraph (c), but Water Body-Specific Designated Uses, Criteria, and WQS Variances are included in paragraph (l). Narrative provisions apply to protect designated uses listed in both (c) and (l), where applicable.

(3) *Aesthetic qualities and protection of aquatic life and human health.* All waters included in paragraph (a) of this section must be capable of supporting aquatic life uses identified in paragraphs (c) and (l), where applicable, and shall be free from substances, attributable to wastewater discharges or any other pollutant sources, that:

(i) Settle to form objectionable deposits;

(ii) Float as debris, scum, oil, or other matter forming nuisances;

(iii) Produce objectionable color, odor, taste, or turbidity;

(iv) Cause injury to, are toxic to, or produce adverse physiological responses in humans, animals, or plants; and/or

(v) Produce undesirable or nuisance aquatic life.]

[MHA's: (a) All the surface waters on the reservation shall be free from substances attributal to wastewater discharges or other pollutant sources that:

(1) settle to form objectionable deposits,

(2) float as debris, scum, oil, or other matter forming nuisances,

(3) produce objectionable color, odor, taste, or turbidity,

(4) cause injury to, or are toxic to, or produce adverse physiological responses in humans, animals, or plants; or

(5) produce undesirable or nuisance aquatic life.

(b) Implementation.

(c) The narrative water quality criteria shall be implemented taking into consideration appropriate EPA technical guidance concerning development of water quality-based controls, such as methods described in the Technical Support Document for Water Quality Based Toxic Control. EPA, 1991. For substances for which numeric water quality criteria have not been adopted, these narrative water quality criteria shall be implemented considering appropriated information, including any criteria guidance issued by EPA under CWA §304(a) and/or information in EPA's toxicity databases. For substances where numeric criteria have not been adopted for the public water supply use, these narrative water quality

criteria shall be implemented considering any drinking water standards or health advisories issued by EPA under the Safe Drinking Water Act. Point source discharge implementation whole effluent toxicity (WET) limitations as required in the latest edition of the EPA Region VIII NPDES Whole Effluent Toxics Control Program document.

NARRATIVE BIOLOGICAL CRITERION

[MHA: Criterion: Reservation waters shall be free from substances, whether attributable to human-induced point source discharges or nonpoint source activities, in concentrations or combinations which would impair the aquatic community as it naturally occurs.

Implementation: The intent of the Tribes in adopting a narrative biological criterion is solely to provide an additional assessment tool that can be used to identify impaired surface waters. At this point in time, regulatory or enforcement actions based solely on the narrative biological criterion, such as development and enforcement of NPDES permit limits, are not authorized. However, adequate and representative biological assessment information may be used in combination with other information, for example, to assist in determining whether designated uses are attained and to assist in determining whether new or revised chemical-specific permit limitations may be needed. In addition, the scope of how the Tribes' narrative biological criterion is used may change in the future, as the Tribes become more experienced and confident in the biological assessment program. Implementation will be based on comparison of current biological conditions at a particular site to the conditions deemed attainable based on an appropriate reference site or condition. In all cases appropriate sampling and analysis techniques will be used, consistent with recommended EPA methods and the Tribes' Quality Assurance Project Plan (QAPP).]

[Narrative WQ criteria from ND DEQ's WQS: The following minimum conditions are applicable to all waters of the Reservation except for ground waters. All waters of the Reservation shall be:

(1) Free from substances attributable to municipal, industrial, or other discharges or agricultural practices that will cause the formation of putrescent or otherwise objectionable sludge deposits.

(2) Free from floating debris, oil, scum, and other floating materials attributable to municipal, industrial, or other discharges or agricultural practices in sufficient amounts to be unsightly or deleterious.

(3) Free from materials attributable to municipal, industrial, or other discharges or agricultural practices producing color, odor, or other conditions to such a degree as to create a nuisance or render any undesirable taste to fish flesh or, in any way, make fish inedible.

(4) Free from substances attributable to municipal, industrial, or other discharges or agricultural practices in concentrations or combinations which are toxic or harmful to humans, animals, plants, or resident aquatic biota. For surface water, this standard

will be enforced in part through appropriate whole effluent toxicity requirements in North Dakota pollutant discharge elimination system permits.

(5) Free from oil or grease residue attributable to wastewater, which causes a visible film or sheen upon the waters or any discoloration of the surface of adjoining shoreline or causes a sludge or emulsion to be deposited beneath the surface of the water or upon the adjoining shorelines or prevents classified uses of such waters.

(6) Free from nutrients attributed to municipal, industrial, or other discharges or agricultural practices, in concentrations or loadings which will cause accelerated eutrophication resulting in the objectionable growth of aquatic vegetation or algae or other impairments to the extent that it threatens public health or welfare or impairs present or future beneficial uses.

[EPA's template: The following narrative criterion pertains to the non-101(a) designated use [listed above]. It may be included as is or modified to provide more specificity – at the Tribe's discretion.]

(4) *Protection of cultural and traditional uses.* All waters with the cultural and traditional designated use specified in [paragraph (c)(3) of this section, as modified by paragraph (l) of this section,] shall be free from contaminants at levels that cause or contribute to an impairment in water-based activities essential to maintaining the Tribe's cultural and traditional practices.

[EPA's regulation at 40 CFR 131.10(b) requires that the Tribe shall ensure that its WQS provide for the attainment and maintenance of the WQS of downstream state or authorized tribes. Generally speaking, the Tribe's downstream protection provisions may be narrative or numeric, and the Tribe has discretion in choosing its preferred approach based on individual circumstances. EPA's current policy on downstream protection is described in the document [HYPERLINK "https://nepis.epa.gov/Exe/ZyNET.exe/P100LIJF.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2011+Thru+2015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C11thru15%5CTxt%5C00000013%5CP100LIJF.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL" \h]**. EPA has developed an interactive interface titled "Decision Tool for Downstream Water Quality Protection" which is designed to direct states, tribes, and territories to resources and methodologies when developing water quality criteria that provide for the attainment and maintenance of downstream water quality standards. As a starting point, EPA recommends that the Tribe adopt the following narrative criterion (d)(4) to provide such protection. Alternatively, EPA has developed** [HYPERLINK "https://www.epa.gov/wqs-tech/templates-narrative-downstream-protection-criteria-state-water-quality-standards" \h] **that the Tribe can use in place of the recommended**

criterion. At the Tribe's discretion, these more detailed narrative templates can be used as starting points to further customize the downstream protection provision in its WQS.]

(5) *Downstream protection.* All waters designated in [paragraph (a) of this section] shall maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including the downstream waters of a state or another federally-recognized tribe.

WATER QUALITY STANDARDS FOR WETLANDS

[MHA: All wetlands on the Reservation which are not constructed wetlands are considered "waters of the Tribes" and shall be subject to narrative criteria and applicable antidegradation provisions. Wetlands are generally assumed to provide habitat capable of supporting aquatic biota (e.g., fish, macroinvertebrates, amphibians or hydrophytic vegetation) on a regular or periodic basis. It shall be a goal of the Tribes to maintain the water quality of wetlands at naturally occurring levels, within the natural range of variation for the individual wetland. For substances that are not naturally occurring, water quality requirements shall be based on protecting existing uses of the wetland consistent with antidegradation requirements, the Tribes' narrative water quality criteria, criteria assigned to hydrologically-connected surface waters, or appropriate criteria guidance issued by EPA. Wetlands shall not be considered as repositories or treatment systems for wastes from human or human induced sources.]

[ND DEQ: Wetlands. These water bodies, including isolated ponds, sloughs, and marshes, are to be considered waters of the state and will be protected under section _____.]

[The following is EPA's model language for wetlands. The Tribe may include WQS specifically for wetlands at its discretion. The Tribe, in coordination with the EPA Regional Office, may choose to use this text as is, modify the text using the online [HYPERLINK "https://www.epa.gov/wqs-tech/templates-developing-wetland-water-quality-standards"]**, or omit the section in its entirety. By omitting WQS specifically for wetlands, the uses, criteria, and antidegradation sections in paragraphs (c) through (g) will apply to any wetlands in the reservation].**

(b) *Wetlands designated uses, narrative and numeric water quality criteria, and antidegradation requirements*

(1) *Definition:* For the purposes of this section, wetlands are defined by the Cowardin classification scheme.

[Note: The "Cowardin classification system" is used by the U.S. Fish and Wildlife Service for the National Wetlands Inventory. In this system, wetlands are classified by landscape position, vegetation cover and hydrologic regime. The Cowardin system includes five major wetland types: marine, tidal, lacustrine, palustrine, and riverine.]

(2) *Designated Uses*. For waters designated in paragraph (a) of this section that constitute wetlands, as defined by the Cowardin classification scheme, the designated uses are: base

flow discharge, cultural and traditional uses, flood flow attenuation, groundwater recharge, indigenous floral and faunal diversity and abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, recreation, resilience against climatic effects, sediment/shoreline stabilization, surface water storage, and water-dependent wildlife.[1]

(3) *Narrative criteria*. All waters included in paragraph (a) of this section that constitute wetlands, as defined by the Cowardin classification scheme, shall maintain the biological, physical, and chemical conditions of reference wetlands[2], specifically: base flow, flow regime, wetland hydroperiod; chemical, nutrient, dissolved oxygen regime of the wetland; conditions favorable to protection and propagation of threatened, endangered, and at-risk species; conductivity; floristic quality; integrity of species diversity, abundance, zonation; normal movement of fauna; pH of wetland waters; salinity; size and shape of the wetland; soil type horizon structure; water currents; erosion and sedimentation patterns; water levels or elevations; and water temperature variations.

(4) *Numeric criteria*. For all waters included in paragraph (a) of this section that constitute wetlands, numeric criteria identified in Table 1 (excluding alkalinity, dissolved oxygen, pH, sulfide, and temperature which are addressed by narrative criteria), Table 2, Table 3, and Table 4 apply as follows:

(i) For waters in which the salinity is equal to or less than 1 part per thousand 95% or more of the time, the applicable criteria are the freshwater criteria in Column B of Table 1 and in Table 2;

(ii) For waters in which the salinity is equal to or greater than 10 parts per thousand 95% or more of the time, the applicable criteria are the saltwater criteria in Column C Table 1 of this section; and

(iii) For waters in which the salinity is between 1 and 10 parts per thousand as defined in paragraphs (e)(1)(ii) and (iii) of this section, the applicable criteria are the more stringent of the freshwater or saltwater criteria.

For all waters included in paragraph (a) of this section that constitute wetlands, "Organism Only" numeric criteria identified in Table 5 apply.]

DESIGNATED USES

(a)[MHA: A designated use may be specified as a goal for the waterbody segment, whether or not the use is currently being attained. The following designated uses may be assigned to individual Reservation surface water segments consistent with the requirements of 40 CFR 131.10:

[1] These wetlands-specific designated uses represent the uses specified in 101(a)(2) of the Clean Water Act.
[2] Note: A "reference wetland" is a specific locality on a water body which is unimpaired or minimally impaired and is representative of the expected biological integrity of other localities on the same water body or nearby water bodies.

I – Public Water Supply. Waters that are suitable or intended to become suitable as potable water supplies.

IIA – Primary Contact Recreation. Waters that are suitable or intended to become suitable for recreational activities in or on the water that potentially involve total body immersion and/or incidental water consumption and exposure, such as rafting, wind surfing, canoeing, tubing, kayaking, scuba diving, snorkeling and water skiing.

IIB - Secondary Contact Recreation. Waters that are suitable or intended to become suitable for recreational activities on or about the water including wading and other similar water recreational activities where there is reduced likelihood of total body immersion.

IIIA – Coldwater Aquatic Life. Provides for protection and propagation of aquatic life normally found in waters where the summer temperature does not often exceed 20° C.

IIIB - Warmwater Aquatic Life. Provides for protection and propagation of aquatic life normally found in waters where the summer temperature frequently exceeds 20° C.

IV – Industrial Water Supply. Water suitable for industrial processes and cooling water. The industrial use classification includes industrial cooling and process water supplies. This classification protects industrial equipment from damage from cooling and/or process waters. Specific criteria would depend on the industry involved.

V – Agriculture. Waters suitable or intended to become suitable for crops usually grown on the Reservation and which are not hazardous as drinking water for livestock.

VI – Navigation. Limited navigation possible on intermittent basis when practicable.

(c) For the indicated water bodies, the designated uses shall be as follows:

Water Body Description	***Designated Uses***
Streams / Creeks / Rivers	
Cranes Creek	IIB, IIIB, V
Shell Creek	IIA, IIIB, V
East Fork Shell Creek	IIA, IIIB, V
Deepwater Creek	IIA, IIIB, V
Charging Creek	IIB, IIIB, V
Six Mile Creek	IIA, IIIB, V
Beaver Creek -From point of origin and/or Reservation line to 200 yards upstream of BIA Road #22 -From 200 yards upstream of BIA gravel Road #22 to downstream confluence with Lake Sakakawea.	IIA, IIB, IIIB, V IIB, IIIB, V IIA, IIIB, V
Malnourie Creek	

-From origin and/or Reservation line to 200 yards upstream of BIA paved road #22 -From 200 yards upstream of BIA paved road #22 to downstream confluence with Lake Sakakawea	IIB, IIIB, V IIA, IIB, IIIB, V
Hans Creek	IIA, IIIB, V
Little Missouri River	IIA, IIIB, V
East Fork Creek	IIA, IIIB, V
Moccasin Creek	IIB, IIIB, V
Squaw Creek	IIB, IIIB, V
Skunk Creek	IIB, IIIB, V
Camp Creek	IIB, IIIB, V
Bear Den Creek -From point of origin and/or reservation line to 400 yards upstream of State Highway #22 -From 400 yards upstream of State Highway #22 to downstream confluence with Lake Sakakawea	IIA, IIB, IIIB, V [confirm: WQS says: IIB, IIB, IIIB, V] IIA, IIB, IIIB, V
Little Shell Creek	IIA, IIIB, V
Clarks Creek -From point of origin and/or reservation line to 200 yards upstream of State Highway #22 -From 200 yards upstream of State Highway #22 to downstream confluence with Lake Sakakawea	IIB, IIIB, V IIA, IIIB, V
North Fork Creek	IIA, IIIB, V
Antelope Creek	IIA, IIIB, V
Lakes / Reservoirs / Sloughs	
Lake Sakakawea	I, IIA, IIIA, IIIB, V, VI
Lake Susie Reservoir	IIA, IIIB, V
Brumwall Slough	IIA, IIIB, V
Minehan Slough	IIA, IIIB, V
Blackwater Lake	IIA, IIIB, V

All water bodies not specifically mentioned are classified as IIA, IIB, IIIA, IV, V, VI]

[From EPA's template: Designated uses below reflect the designated uses specified in section 101(a)(2) of the Clean Water Act. Since 1983, EPA's WQS regulation at 40 CFR 131.10 has interpreted and implemented the Clean Water Act through requirements that WQS protect these uses unless the state or tribe demonstrates by a use attainability analysis that those uses are infeasible to attain. Therefore, EPA generally recommends using the text below. Where such uses are not feasible, the Tribe in coordination with the EPA Regional Office can modify, sub-categorize, or remove these designated uses

consistent with the 40 CFR 131.10 regulation. Different combinations of designated uses may be appropriate for different water bodies. Some tribes and states include a table in their water quality standards that identifies designated uses for each water body or type of water body (e.g., perennial streams).]

[The designated use below are from MHA (as listed above but "arranged" as suggested by the template) and SRST] The following designated uses may be assigned to individual Reservation surface water segments consistent with the requirements of 40 CFR 131.10:

(1) Water quality must provide for the protection and propagation of fish, shellfish, and wildlife.

Coldwater Aquatic Life: Provides for protection and propagation of aquatic life normally found in waters where the summer temperature does not often exceed 20° C.

Warmwater Aquatic Life: Provides for protection and propagation of aquatic life normally found in waters where the summer temperature frequently exceeds 20° C.

[SRST: Wetlands: Surface waters that are suitable for maintaining aquatic biota within the natural range of variation of the wetland.]

[SRST: Other Aquatic Life: Surface waters capable of propagation and growth of a variety of aquatic invertebrate biota. These are small perennial headwater streams, intermittent streams or springs which due to natural conditions do not have the potential to support fish.]

(2) Water quality must provide for recreation in and on the water.

Primary Contact Recreation: Waters that are suitable or intended to become suitable for recreational activities in or on the water that potentially involve total body immersion and/or incidental water consumption and exposure, such as rafting, wind surfing, canoeing, tubing, kayaking, scuba diving, snorkeling and water skiing.

Secondary Contact Recreation: Waters that are suitable or intended to become suitable for recreational activities on or about the water including wading and other similar water recreational activities where there is reduced likelihood of total body immersion.]

[From EPA's template: The following non-101(a) designated uses may be adopted at the Tribe's discretion based on the use and value of the Tribe's waters for these purposes, in accordance with 40 CFR 131.10. The Tribe may prefer different language to describe the cultural and traditional uses to be made of their waters. Further uses that may be considered are provided in CWA section 303(c)(2)(A).]

Agriculture: Waters suitable or intended to become suitable for crops usually grown on the Reservation and which are not hazardous as drinking water for livestock.

Cultural: Surface waters that are suitable for cultural, ceremonial and religious uses, which may include full contact with surface water.

Industrial Water Supply: Water suitable for industrial processes and cooling water. The industrial use classification includes industrial cooling and process water supplies. This classification protects industrial equipment from damage from cooling and/or process waters. Specific criteria would depend on the industry involved.

Navigation: Limited navigation possible on intermittent basis when practicable.

Public Water Supply: Waters that are suitable or intended to become suitable as potable water supplies.

Wildlife: Surface waters that are suitable for all furbearers and waterfowl.

NUMERIC WATER QUALITY CRITERIA

[EPA's regulation at 40 CFR 131.11(a)(1) requires that the Tribe adopt water quality criteria that protect the Tribe's designated uses, that such criteria be based on sound scientific rationale, and that there be sufficient parameters or constituents to protect the designated uses.]

[EPA recommends that the Tribe adopt all of the numeric water quality criteria shown in Tables 1 through 6. They are adapted directly from EPA's section 304(a) [HYPERLINK "https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table" **]. The tribe has some discretion in omitting a criterion for some or all of its waters. For example, criteria can be omitted for a priority toxic pollutant for water bodies where the Tribe in coordination with the EPA Regional Office concludes that the discharge or presence of the pollutant is not reasonably expected to interfere with any of the Tribe's designated uses. Criteria can be omitted for a non-priority toxic pollutant if it is not needed to protect any of the designated uses. See Chapter 3 (Water Quality Criteria) of the [** HYPERLINK "https://www.epa.gov/wqs-tech/water-quality-standards-handbook" **] for more information about such flexibility, and about flexibility to modify criteria.]**

[The numeric criteria in tables 1, 2, 3, and 4 reflect EPA's national recommended water quality criteria for aquatic life protection. The Tribe may need to adjust some of the criteria values before adopting them into their water quality standards. Several criteria are represented by formulas, with the criteria values themselves established on a site-specific basis using ambient data for the required input parameters, such as pH, hardness etc. If local data are available, the Tribe should use those data to recalculate the criteria values, in accordance with EPA guidance available in Chapter 3 of EPA's [HYPERLINK "https://www.epa.gov/wqs-tech/water-quality-standards-handbook" **]. In addition, the Tribe may choose to adjust certain criteria to reflect local natural background levels. The Tribe should coordinate with the EPA Regional Office before developing numeric criteria and to determine if there are additional criteria to adopt that are not specifically identified in paragraph (e), e.g. numeric nutrient criteria, turbidity, total dissolved gas, etc, or whether any criteria in paragraph (e) should be modified to reflect local conditions and information.]**

[MHA: The numeric criteria listed in [Tables 1 – 4] are applicable to all surface waters which have been assigned the indicated designated use. It is recognized that during certain periods of the year, some waters may contain naturally-occurring quantities of some substances at concentrations which exceed the indicated criteria. At such times, it shall be consistent with these water quality standards to adopt a site-specific criterion on a seasonal or year-round basis that is based on the naturally-occurring concentration, provided that the naturally-occurring concentration can be accurately and reliably determined, and it is clear that the elevated concentration is not partially or entirely the result of human activities. Such criteria shall be appended to the water quality standards for the affected waterbody segment or segments. Where the analytical detection limit of a particular substance is greater than the adopted numeric criterion, that consideration will not affect the applicability of the numeric criterion for regulatory purposes, but may influence enforcement decisions such as the identification of compliance thresholds to be included in the National Pollutant Discharge Elimination System (NPDES permits. Adoption of numeric criteria does not create surface water monitoring requirements. In general, the Tribal surface water monitoring program will concentrate on measurement of parameters known or suspected to be present or discharged. For carcinogens, the criteria intended to protect human health reflect a 10^{-6} incremental risk factor.]

(1) *Aquatic life criteria*. The aquatic life criteria for these water quality standards are contained in [Tables 1 – 4 of this section]. The aquatic life criteria apply as follows:

[EPA recommends that the Tribe use the following text to apply the aquatic life criteria to all waters with the "protection and propagation of fish, shellfish, and wildlife" designated use. The Tribe may coordinate with the EPA Regional Office to amend this paragraph and/or paragraph (l) to reflect any special circumstances for specific pollutants and/or specific waters.]

(i) The aquatic life criteria in [Tables 1, 2, 3, and 4 of this section] apply to all waters designated for the protection and propagation of fish, shellfish, and wildlife in paragraph ____ of this section.

(ii) [For waters in which the salinity is equal to or less than 1 part per thousand 95% or more of the time, the applicable criteria are the freshwater criteria in Column B of Table 1, and in Tables 2, 3, and 4 of this section;]

[Mary/Josh: The aquatic life criteria Tables 1 – 4 are listed below (p. 35 -42). I wasn't sure where you want to include them so you can cut and paste them into your WQS.]

[EPA has derived national recommended water quality criteria for human health life protection, consistent with EPA's [HYPERLINK "https://www.epa.gov/wqc/human-health-water-quality-criteria"]**. The Tribe may use the** [HYPERLINK "https://epa.gov/wqs-tech/water-quality-standards-tools-tribes"] **to adapt the national recommended values to meet the Tribe's needs. Specifically, the** [HYPERLINK "https://epa.gov/wqs-tech/water-quality-standards-tools-tribes"] **can tailor the human health criteria values to reflect the Tribe's fish consumption rate (FCR) and the cancer risk level that the Tribe selects. The Tribe can then copy the criteria from the** [

HYPERLINK "https://epa.gov/wqs-tech/water-quality-standards-tools-tribes"]**directly into Table 5 of this document. See instructions under Table 5 below. The Tribe should work with their EPA Regional Office as they determine the appropriate FCR and cancer risk level. [Per the highlighted paragraph directly below, please let me know when you want to talk about which fish consumption rate and cancer risk level to use and I'll include George Parrish from R8's WQS Team in the conversation.]**

Human health criteria. The human health criteria for these water quality standards are contained in Table 5 (p. 41 below). [Mary/Josh I copied following table from EPA's website at: [HYPERLINK "https://www.epa.gov/wqs-tech/water-quality-standards-tools-tribes" \l "tab4"]. Please note that this table changes based on the fish consumption rate and cancer risk level that you select. There are 5 fish consumption rates (including custom) and 3 cancer risk levels that you may choose from. Just select one of each then the table is automatically generated. Then just cut and paste the HHC table into your WQS. Also, there's also a national fish consumption default rate and a national subsistence fish consumption default rate as discussed below.]

[Cancer risk level: As a matter of policy, EPA calculates its national recommended human health criteria for carcinogens at concentrations corresponding to a 10^{-6} cancer risk level, meaning that if exposure were to occur at the prescribed concentration over the course of one's lifetime, then the risk of developing cancer from the exposure as described would be one in a million on top of the background risk of developing cancer from all other exposures. EPA recommends that states and authorized tribes use cancer risk levels of 10^{-6} (one in a million) or 10^{-5} (one in one hundred thousand) for the general population and notes that states and authorized tribes can also choose a more protective risk level, such as 10^{-7} (one in ten million). The Tribe, in coordination with the EPA Regional Office, should select one rate that is best for the Tribe, and enter it in paragraph (e)(2)(i). See EPA's [HYPERLINK "https://www.epa.gov/wqc/human-health-water-quality-criteria"] **for more guidance.]**

(i) The human health criteria for carcinogens [in Table 5] were calculated based on an excess lifetime cancer risk level of **[enter selected cancer risk level].**

[Fish consumption rate: In developing criteria for pollutants that accumulate in aquatic organisms, EPA generally recommends that states and tribes select a fish consumption rate that is based on local data to best reflect fish consumption by their populations. If such data are not available, EPA recommends, in order of preference, the use of data reflecting similar geography/population groups, the use of data from national surveys, and lastly the use of EPA's default intake rates. For reference, EPA's national default fish consumption rate is 22 grams per day (gpd)[3]

[3] EPA's national default fish consumption rate, which is a 90th percentile value found to be reasonable and adequately representative of the general population of fish consumers based on the 2003-2010 data from the NHANES. See footnote 1.

and EPA's national default subsistence fish consumption rate is 142.4 gpd.[4] EPA can assist in calculating the criteria at other rates as well. The Tribe, in coordination with the EPA Regional Office, should select one rate that is best for the Tribe, and enter it in [paragraph (e)(2)(ii)].

(ii) The human health criteria in these standards were calculated using a fish consumption rate of **[enter selected fish consumption rate here]** grams per day (gpd).

[EPA recommends that the Tribe use the text in [paragraph (e)(2)(iii)] to apply the human health "Water Plus Organisms" criteria to all waters with the public water supply use. The special requirement to include the methylmercury "Organism Only" criterion is needed if the waters are also designated for the [paragraph (c)(1)] use (protection and propagation of fish, shellfish, and wildlife), since [Table 5], derived from the [HYPERLINK "https://epa.gov/wqs-tech/water-quality-standards-tools-tribes"]$_2$ **contains no "Water Plus Organisms" criterion for methylmercury. The Tribe may coordinate with the EPA Regional Office to amend this paragraph to reflect any special circumstances for specific pollutants and/or specific waters. For example, some additional waters might need the "Water Plus Organisms" criteria for some or all pollutants to reflect exposures for certain tribal cultural and traditional practices.]**

(iii) For all waters with the designated use specified in [paragraph (c)(4)] of this section (public water supply use), as modified by [paragraph (l)] of this section, the human health criteria for "Water Plus Organisms" and the methylmercury "Organisms Only" criterion as presented in [Table 5] apply.

[EPA recommends that the Tribe use the text in [paragraph (e)(2)(iv)] to apply the human health "Organisms Only" criteria to all waters with the "fishable" use (i.e. to waters designated to protect for human consumption of fish and other aquatic organisms) that are not also designated for public water supply. The Tribe may coordinate with the EPA Regional Office to amend this paragraph to coordinate appropriately with the paragraph immediately above and to reflect any special circumstances for specific pollutants and/or specific waters.]

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[4] EPA's national default subsistence value, representing subsistence fishers whose daily consumption is greater than the general population, which is the 99th percentile value of the 2003-2010 data from the [HYPERLINK "https://nepis.epa.gov/Exe/ZyNET.exe/P100LP4O.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2011+Thru+2015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C11thru15%5CTxt%5C00000014%5CP100LP4O.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL"]. EPA's national fish consumption rate is based on the total rate of consumption of fish and shellfish from inland and nearshore waters (including fish and shellfish from local, commercial, aquaculture, interstate, and international sources). USEPA. January 2013. [HYPERLINK "https://www.epa.gov/wqc/human-health-ambient-water-quality-criteria-and-fish-consumption-rates-frequently-asked"]

(iv) For all waters with the designated use specified in paragraph (b)(1) of this section (protection and propagation of fish, shellfish, and wildlife), but without the designated use specified in [paragraph (c)(4)] of this section (public water supply), as modified by [paragraph (l)] of this section, the human health criteria for "Organisms Only" as presented in [Table 5] apply.

(2) *Recreational water quality criteria.* For all waters with the designated use specified in paragraph ____ of this section (recreation in and on the water), as modified by [paragraph ___ of this section],

[OPTION 1: enter the following text to use Column A in Table 6] the criteria in Column A of Table 6 shall apply.

[OPTION 2: enter the following text to use Column B in Table 6] the criteria in Column B of Table 6 shall apply.

Additionally, the concentration of total microcystins shall not exceed 8 µg/L in more than three ten-day periods per recreational season, for more than one recreational season, over a five-year period and the concentration of total cylindrospermopsin shall not exceed 15 µg/L in more than three ten-day periods per recreational season, for more than one recreational season, over a five-year period.

[If necessary to protect a designated use, the tribe should coordinate with the EPA Regional Office to develop narrative and/or numeric criteria for temperature for reservation waters and include them in paragraph (e)(4). EPA's guidance concerning temperature criteria is available in [HYPERLINK "http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=00001MGA.txt"].

(3) *Temperature criteria.* **[Enter temperature criteria here. If none are appropriate, suggest entering "RESERVED" in case such criteria are inserted at a later date.]**

[For the following paragraph (e)(5), if the design flows in Table 7 are inappropriate for a criterion or for a particular site, in coordination with the Regional Office the Tribe may amend this provision and/or Table 7 in accordance with EPA's regulation at 40 CFR part 131 and EPA guidance in the [HYPERLINK "https://nepis.epa.gov/Exe/ZyNET.exe/100002CU.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1986+Thru+1990&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C86thru90%5CTxt%5C00000004%5C100002CU.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL"].]

(4) *Design flows.* The design flows in Table 7 of this section shall be used to implement the aquatic life and human health criteria in paragraph (e).

(5) *Recreational water quality criteria.* For all waters included in paragraph (a) of this section that constitute wetlands, numeric criteria identified in Table 6 apply as follows:

[OPTION 1: enter the following text to use EPA Recommendation 1 in Table 6] the criteria in Column A of Table 6 shall apply.

[OPTION 2: enter the following text to use EPA Recommendation 2 in Table 6] the criteria in Column B of Table 6 shall apply.

Additionally, the concentration of total microcystins shall not exceed 8 µg/L in more than three ten-day periods per recreational season, for more than one recreational season, over a five-year period and the concentration of total cylindrospermopsin shall not exceed 15 µg/L in more than three ten-day periods per recreational season, for more than one recreational season, over a five-year period.

(6) *Antidegradation requirements.* For waters designated in paragraph (a) of this section that constitute wetlands, as defined by the Cowardin classification scheme, the following antidegradation requirements shall apply:

(i) Maintenance and protection of existing instream water uses and the level of water quality necessary to protect the existing uses consistent with paragraphs (f) and (g) of this section;

(ii) No net loss to the water quality, functions, values, area, or ecological integrity of high quality wetlands, unless, after satisfying applicable antidegradation provisions including avoidance, minimization, and mitigation/replacement requirements, the Tribe determines that allowing degradation is necessary to accommodate important social or economic development in the area in which the wetlands are located consistent with paragraphs (f) and (g) of this section; and

(iii) No loss to the water quality, functions, values, area, or ecological integrity of wetlands assigned as Outstanding National Resource Waters consistent with paragraphs (f) and (g) of this section.

MIXING ZONES AND DILUTION POLICY

(a)[MHA: This policy establishes how mixing and dilution of point source discharges with receiving waters will be addressed in developing chemical-specific and whole effluent toxicity discharge limitations. Depending upon site-specific mixing patterns and environmental concerns, some pollutants/criteria may be allowed a mixing zone or dilution while others may not. In all cases, mixing zones and dilution allowances shall be limited as necessary to protect the integrity of the receiving water ecosystem and designated waterbody uses. This policy shall be implemented consistent with guidance issued by EPA.

(b) Where dilution is available at critical conditions and the discharge does not mix at a near instantaneous and complete rate, an appropriate mixing zone for purpose of achieving compliance with chronic water quality requirements (narrative and numeric) may be designated if:

1. meeting water quality standards at the end-of-pipe is not practicable;

2. allowing a mixing zone will not pose unacceptable risks to designated or existing uses;

3. narrative criteria will be achieved within the mixing zone, provided that the "free from toxicity" narrative criterion shall be implemented by requiring compliance with acute chemical specific and whole effluent toxicity permit limitations at the end-of-pipe, without an allowance for dilutions;

4. the size of the mixing zones for streams and rivers does not exceed one-half the cross-sectional area or a length 10 tim3s the stream width at critical low flow, whichever is more limiting; and

5. the size of mixing zones for lakes does not exceed 5% of lake surface area or 200 feet in radius, whichever is more limited.

(c)Where the discharge is to a river or stream, dilution is available at critical condition, and available information is sufficient to reasonably conclude that the discharge exhibits near instantaneous and complete mixing, an appropriate dilution allowance may be provided for purposes of establishing discharge limitations. As a maximum, the following critical low flows may be used:

Stream Flows

Chronic Aquatic Life	4-day, 3-year flow (biologically based)
Acute Aquatic Life	1-day, 3-year flow (biologically based)
Human Health (carcinogens)	harmonic mean flow
Human Health (non-carcinogens)	4-day, 3-year flow (biologically based) or 1-day, 3-year flow (biologically based)

Effluent Flows

Chronic Aquatic Life	Mean daily flow
Acute Aquatic Life	Maximum daily flow
Human Health (all)	Mean daily flow

(d)Where dilution flow is not available at critical conditions, the discharge limits will be based on achieving water quality criteria at the end-of-pipe. In addition, discharge limits for all point source discharges to a wetland will be based on achieving water quality criteria at the end-of-pipe.]

[EPA template: The Tribe may include a Mixing Zone Policy at its discretion. EPA's guidance on mixing zones includes EPA's [HYPERLINK "https://nepis.epa.gov/Exe/ZyNET.exe/100002CU.TXT?ZyActionD=ZyDocument&Client=EPA

&Index=1986+Thru+1990&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C86thru90%5CTxt%5C00000004%5C100002CU.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL"] **(e.g., see pp., 33-34; 69-78). The following is EPA's recommended text for such a policy. The Tribe, in coordination with the EPA Regional Office, may choose to use this text as is, modify the text, or omit the policy in its entirety.]**

Mixing Zone Policy

In conjunction with the issuance of CWA section 402 and 404 permits, the Tribe authorizes the use of mixing zones in the reservation waters designated in paragraph (a) of this section on a case-by-case basis, in accordance with the following provisions.

(1) Mixing zones, including their size, configuration, and location, shall be authorized by the **[insert name of the Tribe's office that will authorize the mixing zones]** on a case-by-case basis in accordance with the provisions of this section at the time a permit is issued, renewed, or materially modified and is in effect as long as the permit remains in effect. Such an authorization is required before the permitting authority can use the mixing zone to determine the need for, or level of, effluent limits for a particular pollutant.

(2) Mixing zones shall not be authorized for a pollutant when the receiving water does not meet water quality criteria for that pollutant, except where (a) the effluent limits established using a mixing zone are consistent with an EPA-approved or EPA-established TMDL, and (b) the mixing zone is in accordance with this section.

(3) Mixing zones shall not be authorized where they may cause unreasonable interference with, or danger to designated uses, including, but not limited to, any of the following:

(i) Impairment to the integrity of the aquatic community, including interference with successful spawning, egg incubation, rearing, or passage of aquatic life.

(ii) Discharges into shellfish beds.

(iii) Lethality to aquatic life passing through the mixing zone.

(iv) Heat in the discharge that may cause thermal shock, lethality, or loss of cold water habitat or may attract aquatic life to a toxic discharge.

(v) Bioaccumulative pollutants in the discharge.

(vi) Pollutant concentrations that exceed maximum contaminant levels at drinking water intakes.

(vii) Conditions that impede or prohibit recreation in or on the waterbody. Mixing zones shall not be authorized for the indicators in Table 6.

(4) Mixing zones shall not overlap.

(5) Water quality within an authorized mixing zone is allowed to exceed chronic water quality criteria for those parameters approved by the **[insert name of the Tribe's office that will authorize the mixing zones]**. Acute water quality criteria may be exceeded for such parameters within the zone of initial dilution inside the mixing zone. Acute criteria shall be met as near to the point of discharge as practicably attainable. Narrative criteria in paragraph (d) of this section apply within the mixing zone. Water quality criteria shall not be exceeded outside of the boundary of a mixing zone as a result of the discharge for which the mixing zone was authorized.

(6) Mixing zones shall be no larger than necessary, and the concentrations of pollutants present shall be minimized. Mixing zones shall meet the following restrictions:

(i) Mixing zones in flowing waters shall not:

(1) Extend in a downstream direction for a distance from the discharge port(s) greater than 300 feet plus the depth of water over the discharge port(s);

(2) Extend upstream for a distance of over 100 feet;

(3) Utilize greater than 25% of the critical low flow; nor

(4) Occupy greater than 25% of the width of the waterbody.

(ii) Mixing zones in nonflowing waters shall not:

(1) Exceed 10% of the volume of the waterbody;

(2) Exceed 10% of the surface area of the waterbody (maximum radial extent of the plume regardless of whether it reaches the surface); nor

(3) Extend beyond 15% of the width of the waterbody.

(7) The following elements shall be considered when designing an outfall:

(i) Promote rapid mixing to the extent practicable through careful location and outfall design;

(ii) Diffusers shall be used; and

(iii) Mixing zones that result in shore-hugging plumes shall not be authorized.

[MHA: WATER QUALITY STANDARDS IMPLEMENTATION

(a)All discharges from point sources, all instream activities, and all activities that generate nonpoint source pollution are to be conducted so as to achieve these water quality standards. The Tribes anticipate that both regulatory and voluntary pollution control programs will be needed to address all current and future water quality problems on the Fort Berthold Reservation.

(b)All federal licenses and permits, such as permits for wastewater discharges issued under the National Pollutant Discharge Elimination System (NPDES), shall be conditioned in such a manner as to authorize only activities that will not cause violations of these water quality standards. For new standards, revised standards that have become more stringent, or new interpretation of existing standards, schedules of compliance may be included in such permits where appropriate. Compliance schedules shall be developed considering guidance issued by EPA.

(c)Until such time as the Tribes receive eligibility to implement Section 402 of the Clean Water Act, NPDES permits will be issued by EPA to comply with the Tribes' water quality standards. All discharge permit applications will be reviewed by both the Tribes and EPA. The Tribes have the authority to deny certification for any discharge into Reservation waters as described in [paragraph (e) of this section] if they determine that the proposed discharge would cause a violation of the Tribes' water quality standards.

The Tribes will conduct compliance inspection of all permitted facilities on the Reservation. Inspection results will be submitted to EPA for review for compliance. EPA will also have the responsibility of enforcing NPDES permit violations. However, under the CWA the Tribes may initiate citizen suits pursuant to Section 505 against EPA or the permittee to correct permit violations.

(d)The Tribes reserve the right to identify, in a water quality certification, specific water quality standards implementation methods to be used in developing water quality-based point and nonpoint source control requirements. All controls shall be developed using technically-defensible methods such as those described in the EPA guidance documents. These water quality standards will serve as the basis for any §303(d) total maximum daily loads (TMDLs) developed for Tribal waters.

(e)All activities that require a federal license or permit on the Reservation are subject to certification by the Three Affiliated Tribes consistent with § 401 of the CWA. In implementing this authority, and depending upon case-specific facts, the Tribes may decide to certify unconditionally, deny certification, or certify with conditions. Conditional certifications shall specify water quality protective conditions, best management practices, or monitoring requirements that must be implemented by the applicant. Where the Tribes determine that the conditions specified in a certification are not being implemented, or that an activity for which a certification was previously issued is causing a violation or contributing to a violation of the Tribal water quality standards, the Tribes may suspend or revoke a certification pending corrective actions by the applicant, deny certification upon expiration and reissuance o the permit, or initiate a citizen suit consistent with CWA § 505.

(f)These water quality standards apply to all waters affected by nonpoint sources of pollution. At this time, the Tribes intend to rely on voluntary compliance for activities that result in nonpoint

sources of pollution but do not require a federal license or permit. All appropriate combinations of individual best management practices should be applied to avoid violation of water quality standards.

(g)Critical Conditions Policy

1) For purposes of determining water quality-based control requirements for point source discharges, critical conditions shall be determined consistent with the policy and procedure described below, where a steady-state modeling approach is used. Where seasonal controls are appropriate, critical conditions shall be determined based on seasonal characteristics of the receiving water and pollution sources. Other exceptions may be granted where a technically-sound reason to use an alternative method is developed and approved by the Tribes' Natural Resources Department (e.g., where a dynamic or continuous simulation modeling method is used). Critical conditions shall be representative of conditions upstream from the point where the discharge exists.

i) Stream Flows and Effluent Flows:

See the Tribal mixing zone and dilution policy

ii) Temperature and pH (for effluents and receiving waters):

80th percentile of representative samples

iii) Hardness (for effluents and receiving waters)

20th percentile of representative samples

iv) Ambient Quality

Dissolved Oxygen – the 20th percentile of available data,

Fecal Coliform – the geometric mean of available data,

Others – the 80th percentile of available data.]

[MHA: ANALYTICAL METHODS

(a)All methods of analysis used in measuring the water quality of surface waters for purposes of determining compliance with these standards shall be in accordance with procedures prescribed in the current *Code of Federal Regulations, Title 40, part 136.*

[The following is EPA's recommended text for a Compliance Schedule Authorizing Provision. The Tribe may include this provision at its discretion. The Tribe, in coordination with the EPA Regional Office, may choose to use this text as is, modify the text, or omit the provision in its entirety.]

(d) *Compliance Schedule Authorization Provision*

The Tribe authorizes the use of compliance schedules, on a case-by-case basis, for water quality-based effluent limits in National Pollutant Discharge Elimination System (NPDES) permits, when appropriate, and consistent with 40 CFR 122.47, for new, recommencing, or existing dischargers to require compliance as soon as possible with water quality-based effluent limitations calculated to meet water quality standards issued or revised after July 1, 1977.

[While a WQS variance authorizing provision is not required by EPA regulations in order for the Tribe to subsequently adopt WQS variances, the Tribe may choose to adopt one. If a Tribe wishes to include a WQS Variance authorizing provision, the following is EPA's recommended text. With or without a WQS variance authorizing provision, the Tribe may adopt WQS variances at its discretion. EPA's regulation allows for adoption of a WQS variance consistent with the requirements of 40 CFR 131.14. Note that to become effective under the Clean Water Act, any WQS variances issued after the initial WQS are adopted must themselves be adopted by the Tribe, listed in paragraph (l), submitted by the Tribe to EPA, and approved by EPA, in accordance with 40 CFR part 131. If the following text is included the Tribe may also want to list the definition of a WQS variance, as defined in 40 CFR 131.3, in paragraph (o): "a time-limited designated use and criterion for a specific pollutant(s) or water quality parameter(s) that reflect the highest attainable condition during the term of the WQS variance."]

(e) *WQS Variance Authorizing Provision*

The Tribe may consider issuing WQS variances per this section. Any WQS variances adopted subsequent to the adoption of this section must be consistent with the regulation at 40 CFR 131.14 and included in paragraph (l) of this section. A WQS variance is not effective for CWA purposes and thus cannot be implemented for purposes of NPDES permitting or CWA section 401 certification until EPA has approved it under CWA section 303(c).

[Paragraph (l) below is reserved for use to list any waterbody-specific designated uses that differ from those in paragraph (c) of this section, any waterbody-specific water quality criteria that differ from those in paragraphs (d) and (e) of this section, and any WQS variances adopted under paragraph (k) of this section. Remove the word "[Reserved]" if entries are made in this paragraph.]

(f) *Water Body-Specific Designated Uses, Criteria, and WQS Variances*

[Reserved]

TABLES

Table [SEQ Table * ARABIC]. Aquatic life criteria

A		B Freshwater		C Saltwater	
Compound	CAS Number	Criterion Maximum Concentration (CMC) (µg/L) B1	Criterion Continuous Concentration (CCC) (µg/L) B2	Criterion Maximum Concentration (CMC) (µg/L) C1	Criterion Continuous Concentration (CCC) (µg/L) C2
Acrolein	107028	3	3	-	-
Aldrin[a]	309002	3	-	1.3	-
Alkalinity[b]		-	20000	-	-
alpha-Endosulfan[a,c]	959988	0.22	0.056	0.034	0.0087
Aluminum pH 5.0 – 10.5	7429905	Acute (CMC) and chronic (CCC) freshwater aluminum criteria values for a site shall be calculated using the 2018 Aluminum Criteria Calculator (*Aluminum Criteria Calculator V.2.0.xlsx*, or a calculator in R or other software package using the same 1985 Guidelines calculation approach and underlying model equations as in the *Aluminum Criteria Calculator V.2.0.xlsx*) as established in EPA's Final Aquatic Life Ambient Water Quality Criteria for Aluminum 2018 (EPA 822–R–18–001). *To apply the aluminum criteria for Clean Water Act purposes, criteria values based on ambient water chemistry conditions must protect the water body over the full range of variability, including during conditions when aluminum is most toxic.*			
Ammonia	7664417	See Table 4			
Arsenic[d,e]	7440382	340	150	69	36
beta-Endosulfan[a,c]	33213659	0.22	0.056	0.034	0.0087
Cadmium[e]	7440439	See Table 1b		33	7.9
Carbaryl	63252	2.1	2.1	1.6	-
Chlordane[a]	57749	2.4	0.0043	0.09	0.004
Chloride	16887006	860000	230000	-	-
Chlorine	7782505	19	11	13	7.5
Chlorpyrifos	2921882	0.083	0.041	0.011	0.0056
Chromium (III)[e]	16065831	See Table 1b		-	-
Chromium (VI)[e]	18540299	16	11	1100	50
Copper[e]	7440508	See Table 2		Reserved[f]	
Cyanide[g]	57125	22	5.2	1	1
Demeton	8065483	-	0.1	-	0.1
Diazinon	333415	0.17	0.17	0.82	0.82
Dieldrin	60571	0.24	0.056[a]	0.71[a]	0.0019[a]
Endrin	72208	0.086	0.036[h]	0.037	0.0023[h]
gamma-BHC (Lindane)	58899	0.95	-	0.16[a]	-

A		B Freshwater		C Saltwater	
Compound	CAS Number	Criterion Maximum Concentration (CMC) (µg/L) B1	Criterion Continuous Concentration (CCC) (µg/L) B2	Criterion Maximum Concentration (CMC) (µg/L) C1	Criterion Continuous Concentration (CCC) (µg/L) C2
Guthion	86500	-	0.01	-	0.01
Heptachlor[a]	76448	0.52	0.0038	0.053	0.0036
Heptachlor Epoxide[a,i]	1024573	0.52	0.0038	0.053	0.0036
Iron	7439896	-	1000	-	-
Lead[e]	7439921	See Table 1b		140	5.6
Malathion	121755	-	0.1	-	0.1
Mercury[e,j]	7439976	1.4	0.77	1.8	0.94
Methoxychlor	72435	-	0.03	-	0.03
Mirex	2385855	-	0.001	-	0.001
Nickel[e]	7440020	See Table 1b		74	8.2
Nonylphenol	84852153	28	6.6	7	1.7
Oxygen, Dissolved[k]	7782447				
Parathion	56382	0.065	0.013	-	-
Pentachlorophenol	87865	19[l]	15[l]	13	7.9
pH[m]		-	6.5 – 9	-	6.5 – 8.5
Selenium	7782492	See Table 3		290	71
Silver[a,e]	7440224	See Table 1b		1.9	-
Sulfide-Hydrogen Sulfide	7783064	-	2	-	2
Temperature[n]		-	-	-	-
Toxaphene	8001352	0.73	0.0002	0.21	0.0002
Tributyltin (TBT)		0.46	0.072	0.42	0.0074
Zinc[e]	7440666	See Table 1b		90	81
4,4'-DDT[a]	50293	1.1	0.001	0.13	0.001

Footnotes to Table 1 of this section:

a. These criteria are based on the [HYPERLINK "https://www.epa.gov/wqc/guidelines-and-methodology-used-preparation-health-effect-assessment-chapters-consent-decree"], which used different Minimum Data Requirements and derivation procedures from the [HYPERLINK "http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=20003KJK.txt"]. For example, the CMC derived using the 1980 Guidelines was derived to be used as an instantaneous maximum. If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.

b. The CCC of 20mg/L is a minimum value except where alkalinity is naturally lower, in which case the alkalinity cannot be lower than 25% of the natural level.

c. This value was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.
d. This recommended water quality criterion was derived from data for arsenic (III), but is applied here to total arsenic.
e. Freshwater and saltwater criteria for these metals are expressed in terms of the dissolved metal in the water column. See [HYPERLINK "http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=60001CLZ.txt"]. See Table 1a for conversion factors.
f. Saltwater criteria for copper is reserved for new values under development. Criteria will be added once available.
g. These recommended water quality criteria are expressed as µg free cyanide per liter.
h. The derivation of the CCC for this pollutant did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels.
i. This value was derived from data for heptachlor and there was insufficient data to determine relative toxicities of heptachlor and heptachlor epoxide.
j. This recommended water quality criterion was derived from data for inorganic mercury (II), but is applied here to total dissolved mercury. If a substantial portion of the mercury in the water column is methylmercury, this criterion will probably be under protective. In addition, even though inorganic mercury is converted to methylmercury and methylmercury bioaccumulates to a great extent, this criterion does not account for uptake via the food chain because sufficient data were not available when the criterion was derived.
k. For fresh waters, see [HYPERLINK "http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=00001MGA.txt"]. For marine waters, see [HYPERLINK "https://usepa-my.sharepoint.com/personal/aguirre_janita_epa_gov/_layouts/15/WopiFrame.aspx?sourcedoc=%7B35483045-8e1b-4190-a974-0a353150883b%7D&action=default"]
l. Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH and values displayed in table correspond to a pH of 7.8. CCC = $e^{1.005(pH)-5.134}$, CMC = $e^{1.005(pH)-4.869}$
m. For open ocean waters where the depth is substantially greater than the euphotic zone, the pH may not be changed more than 0.2 units from the naturally occurring variation or any case outside the range of 6.5 to 8.5. For shallow, highly productive coastal and estuarine areas where naturally occurring pH variations approach the lethal limits of some species, changes in pH should be avoided but in any case should not exceed the limits established for fresh water, *i.e.*, 6.5-9.0.
n. Criteria are species dependent. See [HYPERLINK "http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=00001MGA.txt"].

Notes to Table 1

1. Freshwater and saltwater aquatic life criteria apply as specified in paragraphs (d)(1) of this section.
2. Because of variations in chemical nomenclature systems, this listing of toxic pollutants does not duplicate the listing in Appendix A to 40 CFR Part 423 - 126 Priority Pollutants. The Chemical Abstracts Services (CAS) registry numbers provide a unique identification for each chemical.

Table 1a: Conversion Factors for Dissolved Metals Criteria

Metal	Freshwater CMC	Freshwater CCC	Saltwater CMC	Saltwater CCC
Arsenic	1.000	1.000	1.000	1.000
Cadmium	1.136672-[(ln hardness)(0.041838)]	1.101672-[(ln hardness)(0.041838)]	0.994	0.994
Chromium III	0.316	0.860	—	—
Chromium VI	0.982	0.962	0.993	0.993
Copper	0.960	0.960	0.83	0.83

Metal	Freshwater CMC	Freshwater CCC	Saltwater CMC	Saltwater CCC
Lead	1.46203-[(ln hardness)(0.145712)]	1.46203-[(ln hardness)(0.145712)]	0.951	0.951
Mercury	0.85	0.85	0.85	0.85
Nickel	0.998	0.997	0.990	0.990
Selenium	----	----	0.998	0.998
Silver	0.85	----	0.85	----
Zinc	0.978	0.986	0.946	0.946

Table 1b: Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent

Chemical	mA	bA	mC	bC	Freshwater Conversion Factors (CF) CMC	CCC
Cadmium	0.9789	-3.866	0.7977	-3.909	1.136672-[(*ln*hardness)(0.041838)]	1.101672-[(*ln*hardness)(0.041838)]
Chromium III	0.8190	3.7256	0.8190	0.6848	0.316	0.860
Lead	1.273	-1.460	1.273	-4.705	1.46203-[(*ln*hardness)(0.145712)]	1.46203-[(*ln*hardness)(0.145712)]
Nickel	0.8460	2.255	0.8460	0.0584	0.998	0.997
Silver	1.72	-6.59	----	----	0.85	----
Zinc	0.8473	0.884	0.8473	0.884	0.978	0.986

Hardness-dependent metals criteria are calculated using the following equations:

CMC (dissolved) = exp{mA [*ln*(hardness)]+ bA} (CF)

CCC (dissolved) = exp{mC [*ln*(hardness)]+ bC} (CF)

Table [SEQ Table * ARABIC]. Copper Aquatic Life Criteria for Fresh Waters

Metal	CAS No.	Criterion Maximum Concentration (CMC) [a] (µg/L)	Criterion Continuous Concentration (CCC) [b] (µg/L)
Copper	7440508	Acute (CMC) and chronic (CCC) freshwater copper criteria shall be developed using EPA's 2007 *Aquatic Life Ambient Freshwater Quality Criteria—Copper* (EPA–822–R–07–001), which incorporates use of the copper biotic ligand model (BLM). Where sufficiently representative ambient data for DOC, calcium, magnesium, sodium, potassium, sulfate, chloride, or alkalinity are not available, the Tribe shall use the 10th percentile values from publicly available peer-reviewed datasets such as the US Geological Survey National Waters Information System (NWIS) and EPA's Storage and Retrieval Data Warehouse.	

[a] The CMC is the highest allowable one-hour average instream concentration of copper. The CMC is not to be exceeded more than once every three years.
[b] The CCC is the highest allowable four-day average instream concentration of copper. The CCC is not to be exceeded more than once every three years.

Table [SEQ Table * ARABIC]. Selenium Aquatic Life Criteria for Fresh Waters

Criterion Element	Magnitude	Duration	Frequency
Fish Tissue[a] (Egg-Ovary)[b]	15.1 mg/kg dw	Instantaneous measurement[c]	Not to be exceeded
Fish Tissue[a] (Whole Body or Muscle)[d]	8.5 mg/kg dw or 11.3 mg/kg dw muscle (skinless, boneless filet)	Instantaneous measurement[c]	Not to be exceeded
Water Column[e] (Monthly Average Exposure)	1.5 µg/L in lentic aquatic systems 3.1 µg/L in lotic aquatic systems	30 days	Not more than once in three years on average
Water Column[e] (Intermittent Exposure)[f]	$WQC_{int} = \frac{WQC_{30\text{-}day} - C_{bkgrnd}(1 - f_{int})}{f_{int}}$	Number of days/month with an elevated concentration	Not more than once in three years on average

[a] Fish tissue elements are expressed as steady-state.
[b] Egg/ovary supersedes any whole-body, muscle, or water column element when fish egg/ovary concentrations are measured.
[c] Fish tissue data provide point measurements that reflect integrative accumulation of selenium over time and space in fish population(s) at a given site.
[d] Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured.
[e] Water column values are based on dissolved total selenium in water and are derived from fish tissue values via bioaccumulation modeling. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data.
[f] Where $WQC_{30\text{-}day}$ is the water column monthly element, for either a lentic or lotic waters; C_{bkgrnd} is the average background selenium concentration, and f_{int} is the fraction of any 30-day period during which elevated selenium concentrations occur, with f_{int} assigned a value ≥ 0.033 (corresponding to 1 day).

[EPA's 2013 *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater* ([HYPERLINK "https://www.epa.gov/sites/production/files/2015-08/documents/aquatic-life-ambient-water-quality-criteria-for-ammonia-freshwater-2013.pdf"]) includes three tables which present calculated ammonia criteria values for combinations of pH and temperature. Page 44 of that document has acute values for water bodies where fish species of the genus Oncorhynchus are present. Page 45 of that document has acute values for water bodies where Oncorhynchus species are absent. Page 49 of that document has chronic values that are protective of waters bodies with or without Oncorhynchus spp. Some Indian tribes and states have adopted these tables in their WQS, in addition to, or in place of, the equations presented in Table 4 of this template.]

Table [SEQ Table * ARABIC]. Ammonia Aquatic Life Criteria for Fresh Waters

mg Total Ammonia Nitrogen (TAN)/L	
Acute (CMC) equation (1 hour average)	$CMC = MIN\left(\left(\frac{0.275}{1+10^{7.204-pH}}+\frac{39.0}{1+10^{pH-7.204}}\right),\ \left(0.7249\times\left(\frac{0.0114}{1+10^{7.204-pH}}+\frac{1.6181}{1+10^{pH-7.204}}\right)\times\left(23.12\times 10^{0.036\times(20-T)}\right)\right)\right)$
Chronic (CCC) equation (30-day rolling average)*	$CCC = 0.8876\times\left(\frac{0.0278}{1+10^{7.688-pH}}+\frac{1.1994}{1+10^{pH-7.688}}\right)\times\left(2.126\times 10^{0.028\times(20-MAX(T,7))}\right)$
Note: Ammonia criteria are a function of pH and temperature. At the standard normalized pH of 7.0 and temperature of 20 °C, the acute criterion would be 17 mg TAN/L and the chronic criterion would be 1.9 mg TAN/L. Criteria duration: the acute criterion is a one-hour average and the chronic criterion is a thirty-day rolling average. Criteria frequency: Not to be exceeded more than once in 3 years. * Not to exceed 2.5 times the CCC as a 4-day average within the 30-days, *i.e.* 4.8 mg TAN/L at pH 7 and 20 °C. more than once in 3 years on average.	

Note to Table 4: Acute (CMC) and chronic (CCC) freshwater ammonia criteria were developed using EPA's 2013 *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater* (EPA–822–R–13–001), which is hereby incorporated by reference. Illustrations, tables, and formulae used in the development of these equations can be found on pages 40-52 of the criteria document. Alternative equations for the presence or absence of *Oncorhynchus sp.* (rainbow trout) can be found on pages 41-42 of the document.

Saltwater ammonia criteria are pH and temperature dependent. Reference tables can be found in EPA's 1989 *Ambient Water Quality Criteria for Ammonia (Saltwater).*

Table [SEQ Table * ARABIC]. Human Health Criteria

[After developing the Tribe's human health criteria using the [HYPERLINK "https://epa.gov/wqs-tech/water-quality-standards-tools-tribes"]**, press the blue button labeled "Copy Table and Footnotes," then paste the contents here]**

[Mary/Josh I copied following table from EPA's website at: [HYPERLINK "https://www.epa.gov/wqs-tech/water-quality-standards-tools-tribes" \l "tab4"]. Please note that this table changes based on the fish consumption rate and cancer risk level that you select. There are 5 fish consumption rates (including custom) and 3 cancer risk levels that you may choose from. Just select one of each and the table is automatically generated. Then just cut and paste the HHC table into your WQS.]

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	**CAS Number**	**Water + Organism (µg/L)**	**Organism Only (µg/L)**
1,1,1-Trichloroethane [a]	71556	10000	200000
1,1,2,2-Tetrachloroethane	79345	0.2	3
1,1,2-Trichloroethane [a]	79005	0.55	8.6
1,1-Dichloroethylene [a]	75354	300	20000
1,2,4,5-Tetrachlorobenzene	95943	0.03	0.03
1,2,4-Trichlorobenzene [a]	120821	0.069	0.073
1,2-Dichlorobenzene [a]	95501	1000	3000
1,2-Dichloroethane [a]	107062	9.9	630
1,2-Dichloropropane	78875	0.9	30
1,2-Diphenylhydrazine	122667	0.03	0.2
1,2-Trans-Dichloroethylene [a]	156605	100	4000
1,3-Dichlorobenzene	541731	7	10
1,3-Dichloropropene	542756	0.27	11

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	**CAS Number**	**Water + Organism (µg/L)**	**Organism Only (µg/L)**
1,4-Dichlorobenzene [a]	106467	300	900
2,4,5-Trichlorophenol [b]	95954	300	600
2,4,6-Trichlorophenol [b]	88062	1.4	2.7
2,4-Dichlorophenol [b]	120832	10	60
2,4-Dimethylphenol [b]	105679	100	2000
2,4-Dinitrophenol	51285	10	300
2,4-Dinitrotoluene	121142	0.048	1.6
2-Chloronaphthalene	91587	800	1000
2-Chlorophenol [b]	95578	30	800
2-Methyl-4,6-Dinitrophenol	534521	2	30
3,3'-Dichlorobenzidine	91941	0.049	0.14
3-Methyl-4-Chlorophenol [b]	59507	500	2000
4,4'-DDD	72548	0.00012	0.00012
4,4'-DDE	72559	0.000017	0.000017
4,4'-DDT	50293	0.00003	0.00003
Acenaphthene [b]	83329	70	90
Acrolein	107028	3	400
Acrylonitrile	107131	0.061	6.7
Aldrin	309002	7.4e-7	7.4e-7

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	**CAS Number**	**Water + Organism (µg/L)**	**Organism Only (µg/L)**
alpha-BHC	319846	0.00035	0.00038
alpha-Endosulfan	959988	20	30
Anthracene	120127	300	400
Antimony [a,c,d]	7440360	5.3	580
Arsenic [c, j]	7440382	0.014	0.047
Asbestos [a,c,e]	1332214	7 million fibers/L	--
Barium [a,c,e,f]	7440393	1000	--
Benzene [a]	71432	0.58	15
Benzidine	92875	0.00014	0.01
Benzo(a) Anthracene	56553	0.0012	0.0013
Benzo(a) Pyrene [a]	50328	0.00012	0.00013
Benzo(b) Fluoranthene	205992	0.0012	0.0013
Benzo(k) Fluoranthene	207089	0.012	0.013
beta-BHC (beta-HCH)	319857	0.0079	0.014
beta-Endosulfan	33213659	20	40
Bis(2-Chloro-1-Methylethyl) Ether	108601	200	3000
Bis(2-Chloroethyl) Ether	111444	0.03	2.1
Bis(2-Ethylhexyl) Phthalate [a]	117817	0.32	0.37
Bis(Chlormethyl) Ether	542881	0.00015	0.017

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	**CAS Number**	**Water + Organism (µg/L)**	**Organism Only (µg/L)**
Bromoform [a]	75252	7	110
Butylbenzyl Phthalate	85687	0.1	0.1
Carbon Tetrachloride [a]	56235	0.4	5
Chlordane [a]	57749	0.0003	0.00031
Chlorobenzene [a,b]	108907	100	800
Chlorodibromomethane [a]	124481	0.8	20
Chloroform [a]	67663	60	2000
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex] [a]	93721	100	400
Chlorophenoxy Herbicide (2,4-D) [a]	94757	1300	12000
Chrysene [a]	218019	0.12	0.13
Copper [a,b,c,e]	7440508	1300	--
Cyanide [a]	57125	4	400
Di-n-Butyl Phthalate	84742	20	30
Dibenzo(a,h) Anthracene	53703	0.00012	0.00013
Dichlorobromomethane [a]	75274	0.94	26
Dieldrin	60571	0.0000012	0.0000012
Diethyl Phthalate	84662	600	600
Dimethyl Phthalate	131113	2000	2000
Dinitrophenols	25550587	10	1000

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	**CAS Number**	**Water + Organism (µg/L)**	**Organism Only (µg/L)**
Dioxin [c]	1746016	4.6e-9	4.7e-9
Endosulfan Sulfate	1031078	20	40
Endrin	72208	0.03	0.03
Endrin Aldehyde [a]	7421934	1	1
Ethylbenzene [a]	100414	67	120
Fluoranthene	206440	20	20
Fluorene	86737	50	70
Gamma-BHC (HCH); Lindane [a]	58899	4.1	4.3
Heptachlor [a]	76448	0.0000057	0.0000057
Heptachlor Epoxide [a]	1024573	0.000031	0.000031
Hexachlorobenzene [a]	118741	0.000076	0.000077
Hexachlorobutadiene [a]	87683	0.009	0.009
Hexachlorocyclohexane (HCH) - Technical	608731	0.0064	0.0098
Hexachlorocyclopentadiene [a,b]	77474	3	4
Hexachloroethane	67721	0.1	0.1
Indeno(1,2,3-cd) Pyrene	193395	0.0012	0.0013
Isophorone	78591	34	1800
Manganese [b,c,e,g]	7439965	50	100
Methoxychlor [a]	72435	0.02	0.02

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	**CAS Number**	**Water + Organism (µg/L)**	**Organism Only (µg/L)**
Methyl Bromide	74839	100	10000
Methylene Chloride [a]	75092	20	1000
Methylmercury [c,h]	22967926	N/A	0.3 *mg/kg*
N-Nitrosodi-n-Propylamine [c]	621647	0.0047	0.46
N-Nitrosodimethylamine [c]	62759	0.00065	2.7
N-Nitrosodiphenylamine [c]	86306	3	5.5
Nickel [c,d]	7440020	93	310
Nitrates [a,c,e]	14797558	10000	--
Nitrobenzene [b]	98953	10	500
Nitrosamines [c]	--	0.000766	0.418
Nitrosodibutylamine [c]	924163	0.006	0.2
Nitrosodiethylamine [c]	55185	0.000766	0.418
Nitrosopyrrolidine [c]	930552	0.016	31
Pentachlorobenzene	608935	0.1	0.1
Pentachlorophenol (PCP) [a,b]	87865	0.02	0.04
pH [c,e]	--	5-9	--
Phenol [b]	108952	4000	300000
Polychlorinated Biphenyls (PCBs) [a,c,i]	1336363	0.000058	0.000058
Pyrene	129000	20	30

Calculated Human Health Criteria based on a Fish Consumption Rate of 22 grams/day and Cancer Risk Level of 1 in 1,000,000 people (10^{-6})			
Pollutant	**CAS Number**	**Water + Organism (µg/L)**	**Organism Only (µg/L)**
Selenium [a,c]	7782492	32	760
Solids Dissolved and Salinity [c,e]	--	250000	--
Tetrachloroethylene [a]	127184	10	28
Thallium [c]	7440280	0.22	0.43
Toluene [a]	108883	57	500
Toxaphene [a]	8001352	0.00068	0.00069
Trichloroethylene [a]	79016	0.6	7
Vinyl Chloride [a]	75014	0.022	1.6
Zinc [b,c]	7440666	1400	4600

Footnotes:

a. EPA has issued a Maximum Contaminant Level (MCL) for this chemical which may be more stringent. Refer to [HYPERLINK "https://www.epa.gov/dwreginfo"].

b. The criterion for organoleptic (taste and odor) effects may be more stringent. Refer to [HYPERLINK "https://www.epa.gov/wqc/national-recommended-water-quality-criteria-organoleptic-effects"].

c. EPA did not update its National Recommended Human Health Water Quality Criteria for this pollutant in 2015. This table's criteria values are calculated using the 2015 revised inputs for body weight, drinking water intake rate, and a fish consumption rate of 22 g/day (refer to [HYPERLINK "https://www.epa.gov/wqc/human-health-water-quality-criteria-and-methods-toxics"]). The criteria values in this table therefore may not match the values in (cite to EPA's 304a) which are based on pre-2015 inputs.

d. This criterion was revised to reflect EPA's q1* or RfD as contained in the [HYPERLINK "https://www.epa.gov/iris"] as of May 17, 2002. The fish tissue bioconcentration factor (BCF) is from the 1980 Ambient Water Quality Criteria document.

e. Criteria for these pollutants are from the [HYPERLINK "https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table"]. They are not calculated based on this table's inputs for fish consumption rate and cancer risk level.

f. This human health criterion is the same as originally published in the [HYPERLINK "https://www.epa.gov/sites/production/files/2018-10/documents/quality-criteria-water-1976.pdf"] which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value is published in the [HYPERLINK "https://www.epa.gov/sites/production/files/2018-10/documents/quality-criteria-water-1986.pdf"].

g. The Human Health for the consumption of Water + Organism criterion for manganese is not based on toxic effects, but rather is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages.

h. This fish tissue residue criterion for methylmercury is based on the total fish consumption rate.

i. This criterion applies to total PCBs (*e.g.*, the sum of all congener or all isomer or homolog or Aroclor analyses).

j. This criterion for arsenic refers to the inorganic form only.

Table [SEQ Table * ARABIC]. Recreational Water Quality Criteria

[EPA believes both criteria sets outlined below are protective of the designated use of primary contact recreation. EPA recommends that tribes make a risk management decision regarding illness rate to determine which set of criteria values (both a GM and related STV) to adopt into their WQS and that this risk management decision should be applied to all waters under tribal jurisdiction that are designated for recreation. In order to ensure downstream protection of estuarine and marine swimming waters, upstream inland waters should have WQS based on the same illness rate as those downstream waters. Note that either enterococci or E. coli can be selected for fresh waters, as adopting one of the indicators is sufficient and only enterococci can be selected for marine waters. Adopting criteria based on one illness rate for some waters and criteria based on the other illness rate for remaining waters is not recommended]

Criteria Elements	A		B	
	Estimated Illiness Rate: 32 per 1,000 primary contact recreators		Estimated Illiness Rate: 36 per 1,000 primary contact recreators	
	Magnitude		Magnitude	
Indicator	GM (cfu/100 mL)[a]	STV (cfu/100 mL)	GM (cfu/100 mL)[a]	STV (cfu/100 mL)
Enterococci (marine and fresh water)	30	110	35	130
E. coli (fresh water)	100	320	126	410
[a] *EPA Method 1600*, or another equivalent method, shall be used to measure culturable enterococci. *EPA Method 1603* (U.S. EPA, 2002b), or another equivalent method, shall be used to measure *E. coli*.				
Duration and Frequency: The water body GM should not be greater than the selected GM magnitude in any 30-day interval. There should not be greater than a ten percent excursion frequency of the selected STV magnitude in the same 30-day interval.				

Table [SEQ Table * ARABIC]. Design Flows

Criteria	Design Flow
Aquatic Life Acute Criteria (CMC)	1 Q 10 or 1 B 3
Aquatic Life Chronic Criteria (CCC)	7 Q 10 or 4 B 3
Human Health Criteria	Harmonic Mean Flow

Notes to Table 7 of this section:

1. CMC (Criteria Maximum Concentration) is the water quality criterion to protect against acute effects in aquatic life and is the highest instream concentration of a priority toxic pollutant consisting of a short term- average not to be exceeded more than once every three years on the average;
2. CCC (Continuous Criteria Concentration) is the water quality criterion to protect against chronic effects in aquatic life and is the highest in stream concentration of a priority toxic pollutant consisting of a 4-day average not to be exceeded more than once every three years on the average;
3. 1 Q 10 is the lowest one-day flow with an average recurrence frequency of once in 10 years determined hydrologically;
4. 1 B 3 is biologically based and indicates an allowable exceedance of once every 3 years. It is determined by EPA's computerized method (DFLOW model);
5. 7 Q 10 is the lowest average 7 consecutive day low flow with an average recurrence frequency of once in 10 years determined hydrologically;
6. 4 B 3 is biologically based and indicates an allowable exceedance for 4 consecutive days once every 3 years. It is determined by EPA's computerized method (DFLOW model).